

Applicant disagrees. SEQ ID No 25 of the instant application is *identical* to original SEQ ID No 5 of the parent case 08/828,845, as evidenced by the attached Exhibit A which directly compares both SEQ ID NOS to each other. Thus, it is respectfully requested that this rejection be withdrawn

Claims 1-3 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial utility or a well-established utility. The Examiner contends that the disclosed utilities are for diseases associated with the GI tract, but that neither the specification nor any art of record teaches what the polynucleotide is and what it does.

Applicant vigorously disagrees. CS197 is a previously unknown polynucleotide that codes for a protein 151 amino acids long and is useful as a diagnostic marker for diseases of the gastrointestinal (GI) due to its abundance in GI tissue.

Based on quantitative analysis of the occurrence of the CS 197 polynucleotide in human GI tissue samples compared to human tissue samples representing the body as a whole, CS 197 is approximately 7 times more abundant in GI tissue than in the rest of the body. {Data are obtained from the Lifeseq database developed by Incyte Pharmaceuticals.} As is known scientists skilled in the cancer diagnostic arts, a gene product, such as a protein or messenger RNA (mRNA) coding for the protein, which is more prevalent and highly specific to one tissue type than other tissue types, is extremely useful as a marker for the detection of disease in that tissue. If a protein appears in a tissue or body compartment where its normal occurrence is very low or non-existent, then the specific tissue in which the protein is normally found is in a diseased state. This is because the disease causes an alteration to the protein-specific tissue resulting in the protein escaping from its normal tissue into another. There are three main conditions which cause a tissue-specific protein to exist outside its specific host tissue: massive trauma, ischemia and hypertrophic proliferation. Thus, if a patient has not experienced a massive trauma or ischemia, detection of a tissue-specific protein outside that protein's host tissue indicates that the precise disease is hypertrophic proliferation of that tissue, the most serious form being cancer. There are many examples of the diagnostic use of tissue-specific protein markers. (For instance, the appearance of prostate specific antigen (PSA) in seminal plasma is normal, but its detection in blood is indicative of prostate cancer. Further, the appearance of PSA messenger RNA (mRNA) in blood is indicative of prostate cancer. Likewise, the appearance of carcinoembryonic antigen (CEA) in colon and stool is normal, but its detection in blood at elevated levels is indicative of

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colorectal cancer. The attached Exhibit B illustrates the usefulness of tissue specific molecules which, upon detection in circulation, indicate proliferative disease. For example, Exhibit A states that CEA is expressed in normal adult tissue but is detected in serum in patients with colorectal and other carcinomas. (p.67, col.2) This journal article explains how a tissue specific molecule, expressed in the colon in normal individuals, is drained to lymph and blood vessels upon colon tumor growth. (Fig. 5) Thus, the above scientific facts support the utility of CS 197 and illustrate that the appearance of CS197 protein or mRNA in a patient blood sample is indicative of GI disease in that patient. .

The Examiner is reminded of the proper standard under the Revised Interim Utility Guidelines which specifically states that utility is acceptable if it is "believable to a person of ordinary skill in the art based on the totality of the evidence and reasoning provided". The Guidelines continue stating "[A]n assertion is credible unless (a) the logic underlying the assertion is **seriously** flawed , or (b) the facts upon which the assertion is based are inconsistent with the logic underlying the assertion." (emphasis added) Simply put, the threshold to be met by Applicant is a **credible assertion** of utility, not the extraordinarily high threshold improperly held by the Examiner. Clearly, the appearance of a secreted CS 197 gene product outside the GI tissue itself, such as in whole blood, urine, stool or serum , indicates a form of GI tract disease, akin to the presence of common markers such as PSA and CEA found in blood outside of their prevalent tissue type. CS 197's use in a diagnostic test in order to determine whether a patient has a disease of the GI tract unquestionably illustrates a credible utility.

Therefore, it is requested that this rejection be withdrawn.

Claims 1-6, 11, 15, 17 and 18 are also rejected under 35 U.S.C. § 112, first paragraph for the reasons set forth above.

Based on the aforementioned argument, it is respectfully requested that this rejection be withdrawn

Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph. Specifically, the Examiner states that the SEQ ID NO:25 is not supported by the parent application 08/828,845. SEQ ID NO: 5 in the parent application has only 97.7% identity to the SEQ ID NO: 25.

Applicant again disagrees. As stated *supra*, SEQ ID No 25 of the instant application is *identical* to original SEQ ID No 5 of the parent case 08/828,845, as

evidenced by the attached Exhibit A which directly compares both SEQ ID NOS to each other. Thus, it is respectfully requested that this rejection be withdrawn

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CONCLUSION

In view of the aforementioned amendments and remarks, the aforementioned application is in condition for allowance and Applicant requests that the Examiner withdraw all outstanding objections and rejections and to pass this application to allowance.

Respectfully

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